

ABSTRACT

5 OPTICALLY OPTIMIZED PERMANENTLY BISTABLE TWISTED NEMATIC LIQUID CRYSTAL DISPLAYS

The structure and construction of a bistable twisted nematic liquid crystal display with very long lifetime are disclosed. The two stable twist states in this display when no voltage is applied have almost infinite lifetimes and do not decay. These two stable twist states differ by a twist angle of 180° . New design conditions of this bistable twist structure are disclosed such that the contrast and the brightness are both optimized. This display can be operated in transmittive mode with two polarizers or in the reflective mode with one polarizer.